

PLASMA cutting

Introduction

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PLASMA CUTTING MACHINES

Inverter technology

- **SHARP 10KT (built in compressor)**
- **SHARP 10**
- **SHARP 22 C WT**

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Transformer technology

- **SHARP 25 MC WT**
- **SHARP 40 MC WT**

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PLASMA CUTTING TORCHES

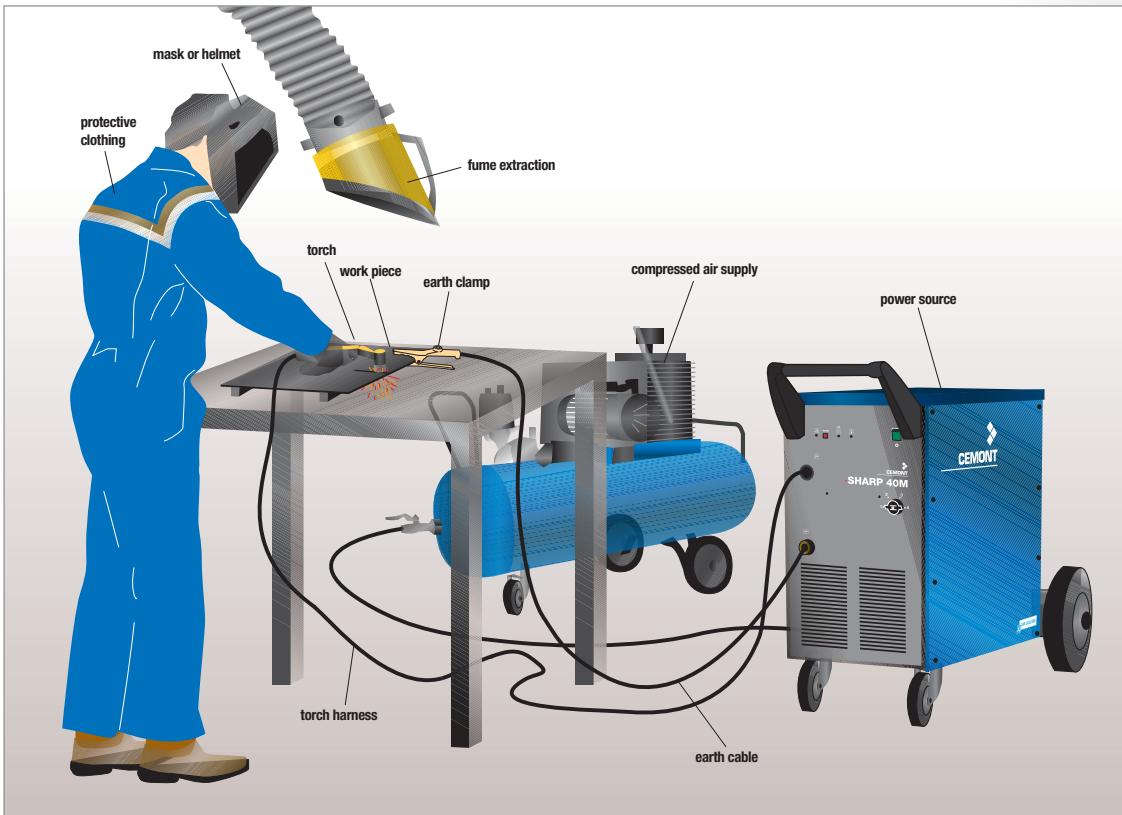
- **Spare parts for torch PT 100**

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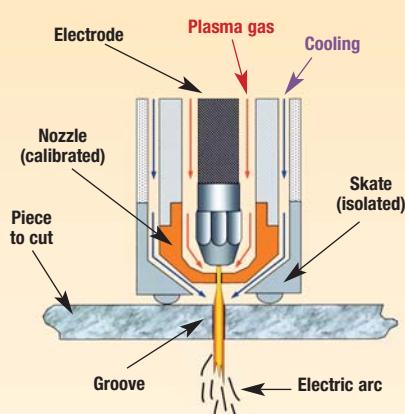


PLASMA Cutting

A TYPICAL MANUAL PLASMA CUTTING INSTALLATION



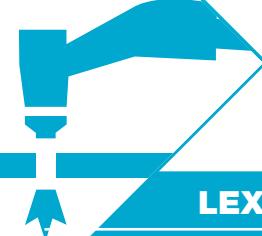
PLASMA CUTTING PROCESS



PLASMA cutting process

Plasma cutting can be used on all conductive materials. In this process, compressed air is blown at high speed out of a nozzle; at the same time an electrical arc is formed through the gas from the nozzle to the surface being cut, turning some of that gas to plasma.

The striking of the cutting arc is obtained by means of a low energy auxiliary arc.



LEXICON

PLASMA CUTTING

Cutting at distance:

With short nozzles and skirts, it is specifically designed for linear cutting using a guiding device.

Cutting in contact:

With a long and fine nozzle, it allows precise work following a drawn plan and accurate cutting at an angle without risk of arc extinction.

Duty cycle

It is defined in the standard. It is the duration of continuous use of an equipment for a time of 10 minutes at an ambient temperature of 40 °C.

A duty cycle of 100 A at 60% means that in 10 minutes, the equipment can cut for 6 minutes at 100 A continuously, followed by 4 minutes of cooling.

A duty cycle of 100 A at 100% means that the equipment is designed to produce 100 A continuously.

Protection index IP

The first figure indicates the maximum diameter of an object which can penetrate into the equipment and be in contact with a live component.

The second figure indicates the level of protection against **falling water**.

Example: IP 2 3

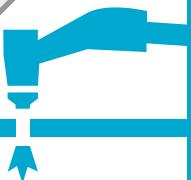
- 2 Means that an object of more than 12.5 mm in diameter cannot be introduced into the equipment.
- 3 Means that the power source is protected against water falling in raindrops at a maximum angle of 60°.

Speed of cutting according to nozzle diameter

Cutting speed (m/min)	Thickness (mm)	Nozzle diameter (mm)							
		FL 0.65	FL 0.8	L 1.0	L 1.2	C 1.0	C 1.2	C 1.4	C 1.8
Carbon steel	1	3.00	5.00			3.80			
	2	2.00	3.00			2.30			
	3	1.10	1.90	3.00		1.50	2.50		
	4	0.65	1.20	2.00		0.80	1.70		
	5	0.40	0.70	1.30	2.20	0.60	1.20	3.70	
	6	0.28	0.48	0.77	1.80		0.75	2.75	
	8	0.17	0.30	0.43	1.25		0.40	1.90	3.55
	10			0.15		0.75		1.25	2.55
	12							0.90	1.75
	15							0.53	1.20
	20							0.18	0.77
	25								0.42
	30								0.33
	35								0.18
Stainless steel	1	2.00	3.50			3.50			
	2	1.00	2.00			2.00			
	3	0.60	1.00	2.20		0.90	2.20		
	4		0.65	1.40		0.65	1.40		
	5		0.40	0.80	1.50	0.36	0.90	2.50	
	6		0.25	0.52	1.00		0.60	1.80	
	8			0.33	0.60		0.24	0.97	3.25
	10							0.67	2.15
	12							0.53	1.30
	15							0.24	0.80
	20								0.40
	25								0.27
	30								0.18
	35								0.12
Aluminium	1	4.50	6.00			8.00			
	2	2.80	4.80			5.00			
	3	1.70	2.80	4.50		3.00	4.00		
	4	1.20	1.80	3.00		1.80	2.80		
	5		1.20	1.90	3.00	1.20	2.30	4.00	
	6		0.60	1.20	2.00		1.60	3.20	
	8		0.45	0.60	1.40		0.90	2.50	4.55
	10				1.00			1.50	3.45
	12							1.20	2.55
	15								1.55
	20								1.00
	25								0.70
	30								0.40
	35								0.30

PLASMA range

SHARP TRANSFORMER				 25 MC WT	 40 MC WT
SHARP INVERTER	 10 KT	 10	 22 C WT		
Cutting current	30 A		65 A	80 A	120 A
Severance cut thickness	10 mm		25 mm	40 mm	



SHARP 10KT + Torch CPT 800



PLASMA POWER SOURCES

The portable solution with integrated compressor for manual plasma cutting.

Features and product advantages:

- **Integrated compressor.**
- **Cutting:** up to 10 mm.
- **Weigh:** only 16 kg.
- **Primary consumption:** < 16 A.
- **Digital** display.
- **Cutting without earth clamp** up to 2 mm.
- **Arc striking** without HF.
- Provided with 16 A plug.

INTEGRATED COMPRESSOR



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Standards

EN 60974-1
EN 60974-7
EN 60974.10

Cutting capacity (for steel)	
quality	severance
8 mm	10 mm



- 1 Digital display.
- 2 On-screen Volt/Ampère selector.
- 3 On-screen pressure selector.
- 4 Regulation of cutting intensity.

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TECHNICAL CHARACTERISTICS:

	SHARP 10KT
Single-phase power supply	230 V
Input power	5.1 kVA - 3.4 kW
Max input current	22.4 A
Effective input current	11.5 A
Air pressure and supply	Integrated
	at 40% 30 A
Duty cycle (10 min cycle at 40 °C)	at 60% 20 A
	at 100% 15 A
Protection class	IP 23
Insulation class	H
Dimensions	470 x 205 x 370 mm
Weight	16 kg



2009-001

Reference

Air-cooled CPT 800 - 4 m	W000275097
Torch body	W000274860

Spare parts CPT 800



Reference

Wear parts for drag cutting	
1 Electrode FL	W000274224
2 Diffuser	W000274266
3-1 Nozzle FL 0,65	W000274969
3-2 Nozzle FL 0,8	W000274265
4-1 Skirt TN	W000274226
4-2 Skirt Ti	W000274225
5 Mounting key	W000274862
Wear parts for angle cutting	
6 Long electrode	W000278629
7 Long nozzle	W000278628

To ORDER:

SHARP 10KT + 4 m CPT 800 torch provided (1 electrode, 1 diffuser, 1 0.8 nozzle and 1 TN skirt) + power cable + earth cable with clamp + wear part kit (1 key, 1 electrode and 1 diffuser)	W000273294
Options	
Compass	W000302512
Wear part box	W000277610



SHARP 10 + Torch CPT 800

Features and product advantages:

- Light:** easy to carry (only 8 kg).
- Versatile:** cuts and perforates all conductive metals.
- Contact cutting:** improves cutting quality while reducing fume emissions.
- Complete:** everything included for immediate use.
- Digital display:** for better regulation and optimal viewing of the parameters.
- Arc striking:** without HF for a cleaner environment.

Cutting capacity (for steel)	
quality	severance
8 mm	10 mm



2010-209

- 1 Digital display.
- 2 On-screen Volt/Ampère selector.
- 3 On-screen pressure selector.
- 4 Setting of cutting intensity.

TECHNICAL CHARACTERISTICS:

	SHARP 10
Single-phase power supply	230 V
Input power	5.1 kVA - 3.1 kW
Max input current	23 A
Effective input current	14 A
Compressed air supply	> 100 l/min - 4 bars
Current range	10 - 30 A
at 35%	30 A
Duty cycle at 40 °C	at 60% at 100%
	25 A 20 A
Protection class	IP 23
Dimensions	380 x 150 x 310 mm
Weight	8 kg

TO ORDER:

Power source + 4 m torch + power cable + fitted earth cable + wear part kit	W000277617
Options	
Compass	W000302512
Wear part box	W000277610



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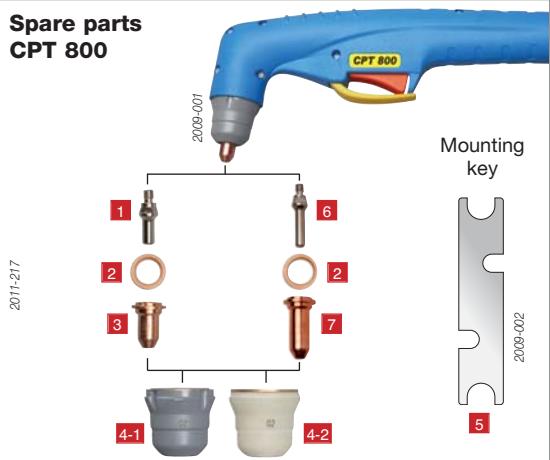
Standards

EN 60974-1
EN 60974-7
EN 60974.10



2009-001

Reference
Air-cooled CPT 800 - 4 m
Torch body



Reference
Wear parts for drag cutting
1 Electrode FL
2 Diffuser
3-1 Nozzle FL 0,65
3-2 Nozzle FL 0,8
4-1 Skirt TN
4-2 Skirt Ti
5 Mounting key
Wear parts for angle cutting
6 Long electrode
7 Long nozzle

SHARP 22 C WT

Features and product advantages:

- **Compact and light:** less than 25 kg and small in size.
Easy to handle.
- **Power:** quality cutting up to 20 mm.
- **High performance:** max cutting intensity 65 A at 40% (40 °C) or at 100% (25 °C).
- **Gouging:** for bleeding.
- **Cutting of grids:** without arc striking.
- **Contact cutting:** improves cutting quality while reducing fume emissions.
- **Complete:** everything included for immediate use.
- **Arc striking:** without HF for a cleaner environment.
- **Autolink system:** (207-253 V / 360-440 three-phase)
Automatic setting et power supply.

Cutting capacity (for steel)	
quality	severance
20 mm	24 mm

TECHNICAL CHARACTERISTICS:

	SHARP 22 C	
Three-phase power supply	230/400 V (± 10%) Autolink - 50/60 Hz	
Input power	10.7 kVA - 8.3 kW	
Max input current	15.5 A	
Effective input current	12 A	
Current range	10 - 65 A	
Duty cycle	at 40% at 60% at 100%	65 A at 40 °C 50 A at 40 °C 65 A at 25 °C
Protection class	IP 23	
Dimensions	435 x 235 x 380 mm	
Weight	25 kg	

To ORDER:

Power source + power cable + fitted earth cable + air hose	W000372414
Options	
Compass	W000302512



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PLASMA POWER SOURCES

Standards
EN 60974-1
EN 60974-7
EN 60974.10



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1 Choice of process:
cutting - cutting of grids - gouging.
Air pressure.
Primary voltage.
2 Setting of cutting intensity.

Delivered equipped with:

- electric primary cable,
- earth cable with clamp,
- safety instructions,
- user manual.

SHARP 25 MC WT

The SHARP 25 MC is a manual plasma cutting installation dedicated to the in site or in workshops applications. This equipment with the transformer technology is highly appreciated for it's ruggedness and the easiness of use.

Features and product advantages:

- **Power supply:** 220 V / 230 V / 380 V / 400 V three-phase.
- **Simple:** a single switch allows you to set the power at 3 positions.
- **Versatile:** cuts and perforates all conductive metals.
- **High performing:** high duty ratio 80 A at 40% at 40 °C.
- **Complete:** everything included for immediate use.
- **Arc striking:** without HF for a cleaner environment.

Cutting capacity (for steel)		
contact	quality	severance
8 mm	20 mm	25 mm

TECHNICAL CHARACTERISTICS:

SHARP 25 MC WT		
Three-phase power supply	230 V	400 V
Input power	18.7 kVA - 11.2 kW	
Max input current	47 A	27 A
Effective input current	29 A	17 A
Compressed air supply	180 l/min - 5 bars	
Current range	30 - 80 A	
Duty cycle at 40 °C	at 40%	80 A
	at 80%	50 A
	at 100%	30 A
Protection class	IP 23	
Dimensions	500 x 855 x 705 mm	
Weight	80 kg	

TO ORDER:

Power source only	W000278037
Options	
Compass	W000302512
Torch PT 100 6 m	W000278170
Torch PT 100 15 m*	W000371687

* compressed air must be at 7 bars



Torch PT 100

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MOTOR GENERATOR
COMPATIBLE



- 1 Defect indicator and reset button.
- 2 On/off switch.
- 3 Cutting torch.
- 4 Power selector.
- 5 Connector for earth cable.

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Delivered equipped with:

- electric primary cable,
- earth cable with clamp,
- safety instructions,
- user manual.

SHARP 40 MC WT

The SHARP 40 MC is a manual plasma cutting installation dedicated to the in site or in workshops applications. This equipment with the transformer technology is highly appreciated for its ruggedness and the easiness of use.

Features and product advantages:

- **Power supply:** 220 V / 230 V / 380 V / 400 V three-phase.
- **Simple:** a single switch allows you to set the power at 4 positions.
- **Versatile:** cuts and perforates all conductive metals.
- **High performing:** high duty ratio 120 A at 50% at 40 °C.
- **Complete:** everything included for immediate use.
- **Arc striking:** without HF for a cleaner environment.

Cutting capacity (for steel)		
contact	quality	severance
8 mm	35 mm	40 mm

TECHNICAL CHARACTERISTICS:

SHARP 40 MC WT		
Three-phase power supply	230 V	400 V
Input power	27.7 kVA - 18.4 kW	
Max input current	70 A	40 A
Effective input current	50 A	28 A
Compressed air supply	220 l/min - 5.5 bars	
Current range	30 - 120 A	
Duty cycle at 40 °C	at 40%	120 A
	at 80%	85 A
	at 100%	50 A
Protection class	IP 23	
Dimensions	500 x 855 x 705 mm	
Weight	125 kg	

To ORDER:

Power source only	W000278038
Options	
Compass	W000302512
Torch PT 100 6 m	W000278170
Torch PT 100 15 m*	W000371687

* compressed air must be at 7 bars



PLASMA POWER SOURCES

Standards
EN 60974-1
EN 60974-7
EN 60974.10



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TRANSFORMER



**MOTOR GENERATOR
COMPATIBLE**



- 1 Defect indicator and reset button.
- 2 On/off switch.
- 3 Cutting torch.
- 4 Power selector.
- 5 Connector for earth cable.

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Delivered equipped with:

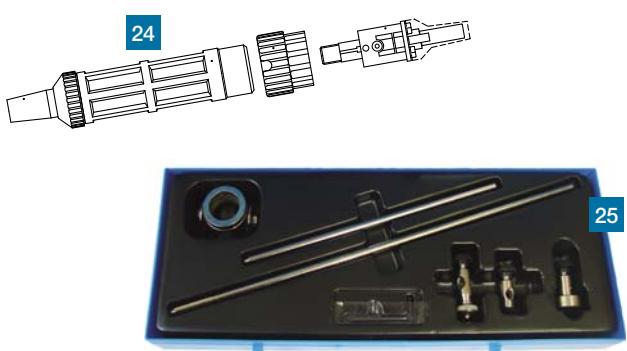
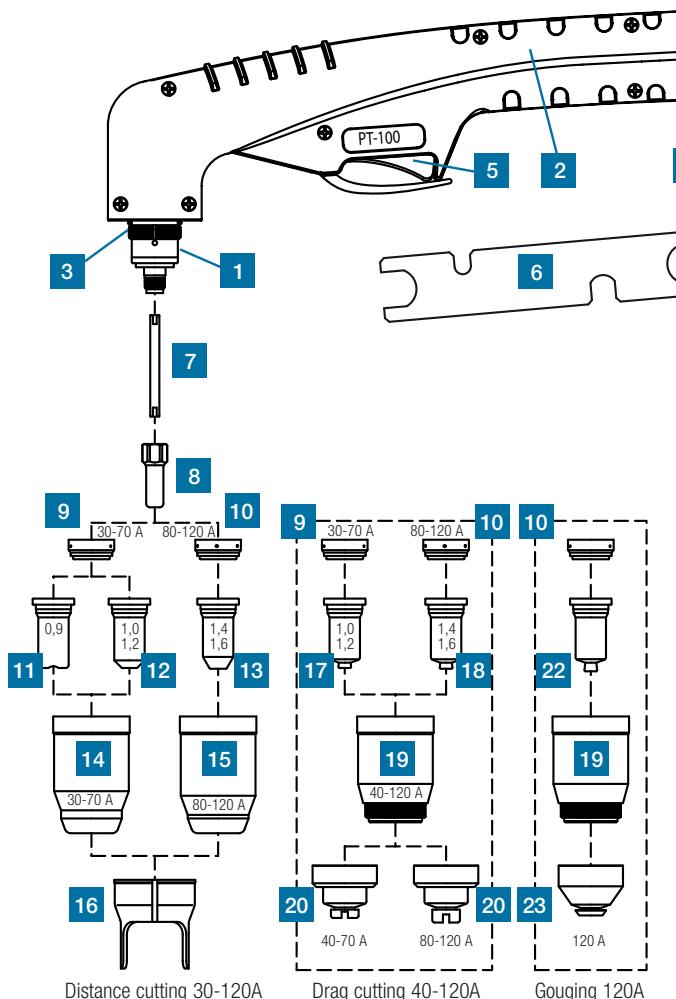
- electric primary cable,
- earth cable with clamp,
- safety instructions,
- user manual.



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TORCH PT 100

2012-656



Torch PT 100

Complete torch PT 100 6 m	W000278170
Complete torch PT 100 15 m*	W000371687

Wear parts for plasma cutting torch PT 100

1 Torch body	W000278466
2 Handle	W000278631
3 O ring PT 100	W000278465
4 Torch harness with central connector	W000278467
5 Trigger	W000278630
6 Mounting key PT	W000274862
7 Cooling tube	W000278408
8 Electrode PT 100	W000278409
9 Diffuser 30-70A	W000278446
10 Diffuser 80-120A	W000278447
11 Nozzle 0,9 distance cutting	W000278448
12 Nozzle 1,0 distance cutting	W000278449
13 Nozzle 1,2 distance cutting	W000278450
14 Nozzle 1,4 distance cutting	W000278451
15 Nozzle 1,6 distance cutting	W000278452
16 Skirt 30-70A distance	W000278458
17 Skirt 80-120A distance	W000278460
18 Protection skirt for distance cutting	W000278464
19 Nozzle 1,0 contact cutting	W000278453
20 Nozzle 1,2 contact cutting	W000278454
21 Nozzle 1,4 contact cutting	W000278455
22 Nozzle 1,6 contact cutting	W000278457
23 Skirt holder for contact cutting	W000278461
24 Skirt 40-70A contact	W000278462
25 Skirt 80-120A contact	W000278463
26 Nozzle 120A for gouging	W000372420
27 Skirt for gouging	W000372421
28 Central connector	W000276319
29 Compas for PT 100	W000372708

* compressed air must be at 7 bars